

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA	)	
	)	
v.	)	Criminal No. 2:20-CR-00360
	)	
PITTSBURGH WATER AND SEWER	)	
AUTHORITY	)	
	)	

**DEFENDANT'S SENTENCING MEMORANDUM**

DATE: June 11, 2021

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**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

UNITED STATES OF AMERICA	)	
	)	
v.	)	Criminal No. 2:20-CR-360-1
	)	
PITTSBURGH WATER AND SEWER	)	
AUTHORITY	)	ELECTRONICALLY FILED

**DEFENDANT PITTSBURGH WATER AND SEWER AUTHORITY’S**

**SENTENCING MEMORADUM**

**I. INTRODUCTION**

Defendant, Pittsburgh Water and Sewer Authority (“PWSA”), files this memorandum pursuant to Rule 32 of the Federal Rules of Criminal Procedure to aid the Court in understanding the events that precipitated PWSA’s violation of the law, for which it has accepted responsibility, and to demonstrate the significant measures PWSA has taken to rectify its past mistakes and to ensure they are not repeated.

As detailed below, the Government and the PWSA have reached a plea agreement pursuant to Rule 11(c)(1)(C) of the Federal Rules of Criminal Procedure. *Docket Entry* 11 (the “Plea Agreement”). This memorandum addresses the sentencing factors listed in 18 U.S.C. 3553 to assist the Court in determining whether the sentence the parties have stipulated to is fair and appropriate.

**II. CRIMINAL CHARGES AND PLEA AGREEMENT**

In May 2017, an employee of the PWSA filed an anonymous complaint alleging that the PWSA’s Aspinwall Water Treatment Plant (the “Aspinwall Plant”) had discharged solids into the Allegheny River in violation of a Clean Water Act (“CWA”) permit. The Government’s investigation also revealed that employees at the Aspinwall Plant had provided estimates rather

than metered readings for two of four flow meters that measured the total daily volume of sludge transmitted from four clarifier basins to the Allegheny County Sanitary Authority (“ALCOSAN”) for disposal pursuant to an Industrial User (“IU”) permit.

The Government filed an eight-count criminal Information on November 18, 2020. *See Docket Entry 1*. Count One alleges that from 2010 to 2017, PWSA employees knowingly discharged clarifier sludge into the Allegheny River in violation of the CWA permit. Counts Two through Eight charge the PWSA with knowingly making materially false statements in a record or report required by the CWA in violation of the IU permit. Pursuant to the Plea Agreement, the PWSA, an organizational Defendant, has plead guilty to Counts One and Two of the Information, charging it with knowingly violating a permit condition (18 U.S.C § 2 and 33 U.S.C. §§ 1311, 1342, and 1319(c)(4)) and knowingly making a material false statement (18 U.S.C § 2 and 33 U.S.C. §§ 1317 and 1319(c)(4)), respectively. *Docket Entries 1, 11*. Both alleged violations occurred at PWSA’s Aspinwall Plant.

The agreed-upon punishment in the Plea Agreement is appropriate given (1) the circumstances surrounding the offenses; (2) the PWSA’s creation of a \$500,000 compliance fund (“Compliance Fund”); (3) the development and implementation of a robust Environmental Compliance Program (“ECP”); and (4) the hiring of an Environmental Compliance Director for the Aspinwall Plant. The PWSA fully and expeditiously cooperated with the Government’s investigation so the Government could save time, money, and resources. In accepting responsibility for its prior compliance shortcomings, the PWSA has agreed not to appeal the sentence and conviction. Furthermore, there has been a significant transformation of PWSA leadership and culture, demonstrating a renewed dedication to enhancing both its water quality

and regulatory compliance. The PWSA's focus is to prioritize the citizens of Pittsburgh and address the growing needs of the aging water and sewer system

The PWSA views its Plea Agreement with the Government as the appropriate next step in accepting responsibility for its prior actions. The parties' agreed-upon penalty establishing the \$500,000 self-funded Compliance Fund, a term of probation for three years, implementation of a robust ECP and the hiring of the Environmental Compliance Director is appropriate given the facts of this case. These requirements, combined with the reputational harm that will result from PWSA's convictions (and has already occurred due to the announcement of the Plea Agreement), are significant punishment that satisfies the purposes of sentencing set forth in 18 U.S.C. §§ 3553 and 3572.

### III. SENTENCING AUTHORITY

The Supreme Court has made clear that the sentencing determination must begin with a properly calculated advisory United States Sentencing Guidelines ("U.S.S.G.", "Sentencing Guidelines" or "Guidelines") range. *United States v. Booker*, 543 U.S. 220, 245-46 (2005); *Gall v. United States*, 128 S.Ct. 586, 596 (2007) ("The guidelines should be the starting point and the initial benchmark."); *Rita v. United States*, 127 S.Ct. 2456, 2464-65 (2007). After calculating the advisory Guidelines range, the Court must consider that range along with all the factors listed in 18 U.S.C. § 3553(a) before arriving at the final sentence. The sentencing judge should "set forth enough to satisfy the appellate court that he has considered the parties' arguments and has a reasoned basis for exercising his own legal decision-making authority." *Rita* at 2468. Since the PWSA is an "organization" that did not operate for a criminal purpose as defined in Chapter 8 of the Sentencing Guidelines, there is no guideline range to be calculated and because of other factors

in determining a fine there is no recommended fine range. *See* U.S.S.G § 8A1.2(a) “Application instructions.”

The provisions of the Sentencing Guidelines relating to organizational defendants are designed to “provide just punishment, adequate deterrence and incentives for organizations to maintain internal mechanisms for preventing, detecting, and reporting criminal conduct.” *See* Introductory Comment to Chapter 8 of the U.S.S.G. The instructions for applying the organizational guidelines are set forth in U.S.S.G § 8A1.2. Subsection 8A1.2(a) instructs the Court to determine from Part B, Subpart 1, the sentencing requirements and options relating to restitution, remedial orders, community service, and notice to victims. There are no identifiable victims of the offenses at issue, and therefore, the matters of restitution, remedial orders, community service, and notice to victims are irrelevant in this case. U.S.S.G §8B1.1-1.4. *See also* Pre-Sentence Investigation Report ¶ 64.

As it relates to a fine in subsection 8A1.2(b), the parties have stipulated that the standard Sentencing Guidelines governing fines for organizational defendants, U.S.S.G. §§ 8C2.2 through 8C.29, do not apply because the PWSA did not operate for a criminal purpose and the provisions of § 8C2.1 do not apply to the counts of conviction because the offenses of conviction for which the PWSA has plead guilty are not listed in subsection (a) of 8C2.1. *See* Plea Agreement §(C)(4); *See also* U.S.S.G. § 8C2.1, Background Commentary (“the provisions of §§ 8C2.2 through 8C2.9 do not apply to counts for which the applicable guideline offense level is determined by Chapter Two, Part Q (offenses involving the Environment)”; *Unites States v. BP Products N. AM. Inc.*, 610 F. Supp 2d 655, 681 (S.D. Tex. 2009) (“The Sentencing Guidelines provisions on fines for organizational defendants do not apply to environmental offenses”). Therefore, the fine or fine

range in this case shall be determined under U.S.S.G. § 8C2.10. *See* Background Commentary of § 8C2.10.

As a result, the criminal fine, which ordinarily is governed by the Guidelines, is a function of the relevant statutes. Pursuant to 18 U.S.C. § 3571(c)(3), the maximum fine for each Count is \$500,000. 18 U.S.C. § 3571(c)(3). In this instance, the parties agree that PWSA is to pay the maximum amount allowable under the statutes into a Compliance Fund in lieu of a fine. Furthermore, the parties have agreed to implement an ECP as defined in §8B2.1. *See* Plea Agreement §D(1)(d)(1). The goal is to ensure that the PWSA has a system in place to prevent and detect criminal conduct and to promote an organizational culture that encourages ethical conduct and compliance with the law among its employees.

The Sentencing Guidelines are less relevant in this case than in the typical case and the guidelines are, of course, “only one of the factors to be considered in imposing a sentence.” *Gall* at 602. This Court must also consider the sentencing factors set forth in 18 U.S.C. § 3553(a). These include: (1) the nature and circumstances of the offense and the history and characteristics of the defendant; (2) the need for the sentence imposed to reflect the seriousness of the offense, to promote respect for the law, and to provide just punishment for the offense; (3) the need to afford adequate deterrence to criminal conduct, and to protect the public from further crimes of the defendant; (4) the need to provide the defendant with education or vocational training, medical care, or other correctional treatment in the most effective manner; (5) the Guidelines and policy statements issued by the Sentencing Commission; (6) the need to avoid unwarranted sentencing disparities among defendants with similar records who have been found guilty of similar conduct; and (7) the need to provide restitution to any victims of the offense. 18 U.S.C. § 3553(a). These factors are addressed below.

The environmental violations at issue did not cause irreparable environmental harm. The agreed-upon disposition fully vindicates the public interest by punishing the PWSA, deterring it and other municipal authorities or companies from future violations, and establishing an ECP to eliminate future misconduct. Accordingly, the Court should accept the sentence agreed to by the parties and sentence the PWSA consistent with the Plea Agreement.

#### IV. APPLICATION OF 18 U.S.C. § 3553(a) SENTENCING FACTORS

##### *A. The Nature and Circumstances of the Offenses and the History and Characteristics of the PWSA*

An in-depth analysis of the nature and circumstances of the offenses and the history and characteristics of the PWSA is set forth below. PWSA does not seek in any way to excuse the behavior underlying the two counts to which it has plead guilty. PWSA asks the Court to recognize, however, that it has made significant improvements in its adherence to its compliance obligations. The upper management who were responsible for or contributed to the violations are no longer affiliated with PWSA. PWSA has not only installed a new management team, but also overhauled its entire leadership apparatus to establish a corporate culture focused on environmental compliance. *See* U.S.S.G. § 8B2.1(b)(3). This management team has demonstrated their commitment to reform by spending the time and money required to revamp the PWSA's facilities and procedures to ensure that the conditions which created the violations at issue have been removed.

##### *i. Overview of The Pittsburgh Water and Sewer Authority*

The PWSA was organized by the City of Pittsburgh as a municipal authority in 1984. The PWSA's Chief Executive Officer ("CEO") reports to a Board of Directors. Prior to June of 2020, the PWSA was led by an Executive Director instead of a CEO. The PWSA became responsible to provide drinking water and sewage collection services to residential, commercial, and industrial



customers within the City of Pittsburgh in the 1990's. The PWSA and the City of Pittsburgh participate in the ALCOSAN system, which treats sewage generated from participating municipalities and wastewater collected by the PWSA from residential, commercial, and industrial customers. PWSA's vision is to provide water and wastewater services that meet or exceed all regulations and customer expectations at the lowest possible cost.

PWSA serves approximately 306,000 residents of Pittsburgh. Its water system provides water to approximately 83,000 customer accounts or 84% of the total population of greater Pittsburgh. PWSA's drinking water treatment, storage, and distribution infrastructure includes two treatment plants, 11 pump stations, five reservoirs, 11 storage tanks, 11 booster chlorination facilities, seven orthophosphate feed points for corrosion control, and approximately 965 miles of water lines. The PWSA also provides wastewater and storm water collection and transmission service to an estimated 306,000 residents. Its operational reach is expansive as it maintains over 29,000 manholes, 27,000 catch basins and inlets, 25,000 valves and fire hydrants, 1,220 miles of sanitary, storm, and combined sewers, and 185 storm outfalls. PWSA also manages over 300 employees.

Unfortunately, certain physical components were originally constructed or installed over one hundred years ago and the PWSA's historic investment and capital improvements did not keep pace with the need for upgrades. Until 2017, the PWSA operated on an inadequate budget with minimal investments in new assets and a revolving door in leadership, with more than 20 executive directors since the mid-1980's. The PWSA's management and operations staff declined significantly since the 1970's, providing fewer skilled workers to address the growing needs of the water and sewer systems. These factors, combined with periods of outside contract management

operations from two different companies, fostered an inefficient and poorly-funded organizational culture which tolerated indifference to environmental obligations.

ii. The Aspinwall Plant and Water Treatment Permits

The Aspinwall Plant draws water from the Allegheny River, treats it to drinking water standards, and then distributes the drinking water pursuant to a CWA Permit. The Aspinwall Plant produces an average of 70 to 80 million gallons of drinking water per day and is staffed by employees working on a 24-hour schedule throughout the year. Water treatment facilities have existed at the Aspinwall Plant's current Freeport Road site since the 1800's and have produced drinking water of a quality that meets or exceeds federal and state drinking water standards throughout its years of operation.

The current Aspinwall Plant was completed and operational in 1969 to then-current water treatment design standard and processes, including the use of clarifier basins. Once untreated water enters the plant it passes through a series of screens and various chemicals are then added to the water for treatment. *See* Exhibit 1 (water cleaning process). The partially-treated water is transferred to one of four large clarifier basins designed for the settling and removing of fine particulate matter and other naturally occurring substances. The Plant's four identical clarifier basins each hold approximately 1.8 million gallons of partially-treated water.

Chemicals are then added to the water to promote coagulation and cause clumps of solid material known as "clarifier sludge" to sink to the bottom of each basin. Each basin has a meter to measure sedimentation discharge along with multiple pipes, valves and drains connected to a distribution structure less than 100 yards from the basins. Flow meter FM-5, located in the distribution structure, totalizes the flow from the four clarifier basins (providing secondary verification of the clarifier residues flow to ALCOSAN.) The clarifier sludge is discharged to

ALCOSAN from the distribution structure in accordance with the EPA IU permit that authorizes PWSA to send up to one million gallons of clarifier sludge per day to ALCOSAN for disposal.

Discharges were also previously permitted from the distribution structure into the Allegheny River by means of an outfall designated as “Outfall 012.” Discharges from this location were authorized by a CWA National Pollutant Discharge Elimination System (“NPDES”) permit which allowed the discharge of certain pollutants in limited concentrations at specific outfalls along the Allegheny River. These discharges were permitted under NPDES permits until the ALCOSAN sewer connection was constructed in the mid-1990s. Permits since 2009 have established stricter limits for all “process wastewater discharges” from the Aspinwall Plant. At that time, water treatment facility discharge permits were modified to control the source, nature and frequency of Allegheny River discharges. NPDES permits issued since that time have ratcheted down the allowable discharges.

In the past, there was a NPDES permitted valve discharge through which a specified sedimentation byproduct flow from the clarifiers could be directed to the Allegheny River instead of to ALCOSAN. The discharge was permitted as a bypass, to be used only for operational maintenance processes that met specified flow discharge characteristics. As discussed below, the valve has been disabled. The current NPDES permit, issued by DEP, is NPDES Permit No. PA0218961 for Industrial Wastewaters (effective on April 1, 2017, expiring on March 31, 2022.)

Routinely, there is a dewatering process when each basin is emptied of as much water as possible in order to conduct repairs and maintenance. The removed water is referred to as “clarifier blowdown.” Once the dewatering process is complete, laborers enter the basin with firehoses to wash the remaining accumulated sludge off the basin’s walls and machinery. This cleaning water and leftover sludge should be sent to the pipe leading to ALCOSAN from the distribution structure,

but on some occasions was instead redirected from into the Allegheny River via Outfall 012, in violation of the NPDES permit. The discharge(s) were reportedly done by, or directed by, a PWSA operations manager who left PWSA in March of 2017. Despite its availability, the current operators stated in their interviews with the Government that they were instructed that they should never open the valve to the river. In May 2019, plates were bolted to permanently block the valve that allowed flow from the distribution structure to the Allegheny River.

iii. Factual Basis for Criminal Violations

PWSA's current position in this Court is a result of frequent management turnover, decades of inadequate funding, poor investment decisions, and the failure to hire appropriate staff that prevented proper operation and maintenance of the Aspinwall Plant. In addition, two partial privatization efforts, one in 2001-2002 and another in 2012-2015, failed to achieve desired stabilization and utility improvements. The vast majority of the misconduct cited in the Information occurred in the wake of 2012-2015, a period when the PWSA was managed by Veolia Water North America Northeast ("Veolia"), an independent consulting firm. Veolia's tenure produced neither organizational stability nor the anticipated cost savings and officially ended in 2015. In the interest of continuity, individuals from the management team remained until 2016. PWSA accepts responsibility for its actions and inactions and the management failures of its contract management team. Unfortunately, the combination of years of disinvestment and third-party contract management precipitated the violations of the law as described in Counts One and Two.

The lack of procedural safeguards and shortage of skilled workers is evidenced by the allegations underlying both counts. For example, with respect to Count One, the operations at the Aspinwall Plant were originally designed and operated with "solids related disposal" directly to

the Allegheny River. In the past, there was a NPDES permitted valve discharge through which specified sedimentation byproduct flow from the clarifiers could be directed to the Allegheny River instead of to ALCOSAN. The discharge was permitted as a bypass to be used only for operational maintenance that met specified characteristics. Accordingly, for years, it was common routine and practice to open the valve located at the distribution structure to discharge certain wastes directly into the Allegheny River.

Updated permits prohibited this form of discharge, but they nevertheless continued to occur at times. The prohibited discharges were reportedly performed, or directed by, an operations manager who left the PWSA in March of 2017 and is currently under federal indictment. The valve leading from the distribution structure to Outfall 012 has been bolted shut to permanently block the valve from opening, as shown in Exhibit 2. In addition, an electronic control that operated the valve has been disconnected so there is no switch to operate the valve. This ensures that all future discharges will be re-routed from the distribution structure directly to ALCOSAN instead of the Allegheny River, with no opportunity to bypass the system.

The violations described in Count Two were the result of years of disinvestment. That count focuses on estimated rather than metered reporting of the daily volume of sludge transmitted to ALCOSAN pursuant to the IU Permit. Each basin is equipped with its own flow meter. An additional meter (FM-5) is located at the distribution structure and totalizes the flow from the four basins to provide accurate readings. Plant operators can manually or electronically monitor the readings from the basins and the data is entered in a spreadsheet so the PWSA can calculate the amount of sludge being sent to ALCOSAN in compliance with the IU permit, which allows up to one million gallons of discharge per day. The final calculation is submitted in a Self-Monitoring

Compliance Report (“SMCR”) that provides for criminal sanctions for knowingly providing false information.

The four basins are designed, constructed, and operate identically, so the discharges from the basins should be consistent between the basins. Two of the meters, located in basins 2 and 4, were not functioning from 2014 until early 2020. The PWSA conservatively estimated the flow from those two basins based on the flow of basins 1 and 3 recorded by the properly functioning meters. The PWSA estimated the average total flow from all four basins to ALCOSAN to be approximately 552,000 gallons per day, well below the one-million-gallon daily limit.<sup>1</sup> The PWSA failed to disclose that it was providing estimated flow amounts from basins 2 and 4. These estimated flow amounts were based on sound principles. However, further, the PWSA began the process to have the flow meters replaced in June of 2019, and all basin meters were operational as of March 4, 2020. Replacement meters were also installed at the distribution structure and linked to an external monitoring system calibrated to sound an alarm if daily flow reaches 800,000 gallons, thereby ensuring PWSA stays within the daily allowable limit pursuant to the IU permit.

The facts above highlight the gross mismanagement, years of disinvestment, and lack of skilled workers dating several decades prior to these criminal violations. Leadership failed to ensure environmental compliance and instead fostered a culture focused on short cuts to save costs. However, as discussed below, the PWSA has dramatically increased capital investment in not only its water and sewer infrastructure, but a top-to-bottom reform of its environmental compliance to turn around the organizational culture.

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<sup>1</sup> The valve discharge process automatically repeats 12 times per day with each individual basin’s valve open for 15 minutes on an alternating basis. The final calculation is gathered from estimating the amount of flow from basins 2 and 4 to be roughly 300,000 gallons (1,668 gallons per minute for 15 minutes, 12 times a day) combined with the readings from the correctly working meters in basins 1 and 3 at 252,000 gallons (1,400 gallons per minute for 15 minutes, 12 times a day).

iv. PWSA's Compliance Activities in the Wake of the Offenses

This violations at issue are a historical blemish that deviates from the way the PWSA will conduct its business in the future. What happened at Aspinwall is not typical for the PWSA and substantial progress has been made since 2017 to make strategic improvements to its processes, employee skill sets, and systems to address issues of staffing, operations, environmental compliance and capital investment. The PWSA has dramatically increased capital investment in its water and sewer infrastructure to assist with these improvements.

The PWSA spent \$127 million on capital improvements in 2020 and projects that it will spend \$130 million on capital improvements in 2021, which is more than seven times the amount spent on capital improvements six years earlier. The PWSA's capital plan includes over \$1 billion in major improvements to the Aspinwall Plant, including key components of its distribution system such as storage tanks, pump stations, reservoirs, and water main and lead service line replacements. The PWSA has also added highly qualified and experienced professional management in several key departments including engineering, finance, communications, and its operations staff over the past several years.

The PWSA has enhanced its water quality by restructuring its regulatory compliance department with the addition of qualified personnel and these improvements have resulted in a critical culture change throughout the organization. In doing so, PWSA has reformed its compliance program in accordance with the provisions of U.S.S.G. § 8B2.1, which require:

(1) Due diligence to detect and prevent criminal conduct and otherwise promote an organizational culture with standards and procedures that encourages ethical conduct and a commitment to complying with the law; (2) Oversight of the compliance program by high-level personnel; (3) Responsible delegation authority; (4) Continuous employee training; (5) Effective hotline and reporting protocols; (6) Prompt and adequate investigation of complaints and remediation of deficiencies, including self-disclosure and consistently applied discipline

when appropriate; (7) A robust monitoring and auditing process that sufficiently address the key risk areas for a corporation.

#### U.S.S.G. §8B2.1

This restructuring of the compliance department was initiated by the PWSA's management team and demonstrates the PWSA's commitment to comply with applicable law and regulations and encourage ethical conduct. U.S.S.G. § 8B2.1(a). First, in doing so, the PWSA has replaced previous upper management and those responsible for the wrongdoing that contributed to PWSA's compliance shortcomings. *Id.* at (b)(3). Second, the PWSA has added an Environmental Compliance Director, who will serve as the Compliance Manager identified in the Plea Agreement, and developed and adopted an Environmental Compliance Manual. *Id.* at (b)(2)(C). Third, the PWSA has appointed an external Ethics Officer for confidential employee reporting of compliance issues. *Id.* at (b)(5)(C).

The PWSA now has a Compliance Director (who reports directly to the CEO) to ensure proper oversight of the implementation and effectiveness of the compliance and ethics program. *Id.* at (b)(1)-(2). The PWSA also established a Water Quality Advisory Committee in 2016 to advise PWSA's consultants and managers on water quality concerns. They meet intermittently to address specific issues as they arise. *Id.* at (b)(4). This committee is currently composed of PWSA's Water Quality Advisor, Environmental Compliance Director, Water Treatment and Supply, Senior Manager, Water Quality/Environmental Compliance, a member of its Board (a former professor at Carnegie Mellon University with a Ph.D. in chemical engineering who is the current committee chair), and professors from Carnegie Mellon University and the University of Pittsburgh (who are both professional engineers and Ph.D.'s in civil engineering). The PWSA is presently seeking to expand the Water Quality Advisory Committee membership and to more formally involve the committee in water quality compliance issues. Overall compliance is an



express responsibility of the CEO, COO, and all directors and manager. *See* Organization Chart in Exhibit 4.

The PWSA continues to update its standard operating procedures and develop training to stress environmental compliance by implementing a Compliance Program that is consistent with federal guidelines. *Id.* at (b)(5)(A)-(B); *See* Exhibit 3. It has adopted and is implementing a Code of Conduct to guide all PWSA employees in understanding PWSA's environmental legal obligations and its rules, ethics, and values. *Id.* at (b)(6)-(7). In accordance with the Plea Agreement, the PWSA submitted the outline and schedule for the Environmental Compliance Program in March 2021, and the completed Environmental Compliance Manual in April 2021. The PWSA is currently addressing comments provided by EPA on the outline and manual.

Lastly, the Pennsylvania Public Utilities Commission ("PUC") has approved PWSA's Long-Term Infrastructure Improvement Plan that includes projects to replace and upgrade infrastructure to meet current standards. To focus on this commitment to the PUC, the PWSA will continue to improve its current operational status and the organization has instituted a plan called *Focusing on The Future*. *Focusing on The Future* articulates PWSA's desired future state, which is to be a highly responsive and trusted public utility, recognized for excellence and valued by its community. *See* Exhibit 5. The desired future state will be achieved with PWSA supporting community vitality by protecting public health and the environment through safe, reliable, and cost-effective delivery of drinking water, wastewater, and stormwater services. *Focusing on The Future* establishes five primary goal areas for the PWSA: (1) Protect Public Health and the Environment; (2) Ensure Customer and Stakeholder Satisfaction; (3) Improve Infrastructure Reliability; (4) Maintain a High-Performing Workforce; and (5) Be an Effective and Efficient Organization.

The PWSA is dedicated to not only implementing a robust compliance program pursuant to U.S.S.G. § 8B 2.1, but also a complete overhaul to its management structure to promote and deter future criminal conduct. The PWSA has devoted significant resources towards this endeavor and is excited to continue its transformation.

*B. The Need for the Sentence Imposed to Reflect the Seriousness of the Offenses*

A court reviewing a binding plea agreement must determine whether the agreed-upon sentence represents an “appropriate disposition.” Fed. R. Crim. Proc. 11(c)(1)(C). To consider the need for a sentence imposed to reflect the seriousness of the offenses and evaluate if it is an appropriate disposition, the Court should recognize that the Department of Justice has increasingly permitted companies to avoid convictions using Deferred Prosecution Agreements (“DPAs”) or Non-Prosecution Agreements (“NPAs”). *See* “The Changing Face of Corporate Prosecutions”, 40-OCT Champion 48. In 2020 alone, 40 cases were resolved via DPAs or NPAs rather than convictions, showing an increase of 36 cases from 2019 and 23 cases from 2018.<sup>2</sup> The PWSA functions as a corporation even though it is designated as a municipal authority. The PWSA filed articles of incorporation and is set up to facilitate the acquisition, operations, financing, and construction of projects from stormwater management to wastewater treatment. It can exercise governmental, as well as private, corporate powers in assisting the Commonwealth of Pennsylvania to meet the needs of its citizens.

The Government’s insistence on a felony conviction in this case underscores that in no sense did it “go easy” on the PWSA. Indeed, this case has resulted in extensive publicity in Pennsylvania and throughout the United States, thereby furthering the public interest in

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<sup>2</sup> *See* Brandon L. Garrett & Jon Ashley, Federal Organizational Prosecution Agreements, University of Virginia School of law, at [http://lib.law.virginia.edu/Garrett/prosecution\\_agreements/home.suphp](http://lib.law.virginia.edu/Garrett/prosecution_agreements/home.suphp)

deterrence.<sup>3</sup> Even without reference to specific terms of the Plea Agreement, the Government's decision to seek a conviction, rather than proceeding by a DPA or NPA, demonstrates a tough but fair deal.

*C. The Need to Afford Adequate Deterrence to Criminal Conduct and Protect the Public from Further Crimes;*

The proposed punishment will have a substantial deterrent effect and protect the public from further crimes. A penalty of such a substantial amount, \$500,000, and required implementation of a robust ECP sends a strong message that the PWSA will ensure that its water treatment facilities operate at the highest level in accordance with federal and state regulatory standards. A sentence reflecting the terms of the Plea Agreement will serve as a substantial deterrent to other industries regulated by the EPA. Given the PWSA's operational impact and publicity surrounding these events, every employee is aware of the seriousness of the case. Due to the highly publicized criminal prosecution of this case, the PWSA and its employees are aware of the need to adhere to the highest standards of environmental compliance in the future. If the Court approves the terms of the Plea Agreement, the record of the case will serve as a lesson that companies must do better in monitoring their environmental protocol. The proposed penalty will show that any deviations from environmental permits will be met with significant sanctions.

*D. The Need to Provide the PWSA with Training and Correctional Treatment; Any Policy Statements; Restitution to Identifiable Victims; The Kinds of Sentences Available*

The terms of the Plea Agreement sufficiently satisfy the need to provide the PWSA with any education or vocational training pursuant to 18 U.S.C. § 3553 (a)(2)(D). Also, the need for medical care or other correctional treatment is inapplicable in this case. Furthermore, there are no

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<sup>3</sup> The Government held a press conference to announce the filing of the Information and the Plea Agreement. Local and national television and radio stations covered the press conference extensively.

pertinent policy statements applicable in accordance with 18 U.S.C. § 3553(a)(5). For the types of sentences available, pursuant to 18 U.S.C. § 3571(c)(3), the maximum fine for Counts One and Two is \$500,000. Because the offense of conviction is a Class C felony, the authorized term of probation is not less than one but not more than five years. 18 U.S.C. § 3561(c)(1). Also, forfeiture is inapplicable in this case. *See* Pre-Sentence Investigation Report ¶¶ 75-76. Lastly, there are no identifiable victim or victims who have suffered any physical injury or pecuniary loss and restitution is inapplicable in this case pursuant to provisions of the Mandatory Victim Restitution Act in 18 U.S.C. § 3663A. *See* Pre-Sentence Investigation Report ¶¶ 79-80.

*E. The Need to Avoid Unwarranted Sentencing Disparities Among Defendants with Similar Records Who Have Been Found Guilty of Similar Conduct*

One of the fundamental principles of federal sentencing is that similar offenses should receive similar sentences. The criminal penalty of \$500,000 and the three-year term of probation to be imposed is consistent with the criminal penalties that have been imposed in other cases.

A similarly-situated defendant in *United States v. Libertas Copper* (2:20-CR-00369)(W.D.P.A), was sentenced by this Court to pay \$550,000 and serve a three-year term of probation.<sup>4</sup> Libertas operated a manufacturing facility on the Ohio River that produced flat-rolled copper products for the electrical distribution, industrial, and residential construction markets. Libertas also managed wastewater generated as a result of its copper processing via a wastewater treatment plant that discharged wastewater to designated outfalls along the Ohio River in compliance with a CWA NPDES permit similar to the one issued to PWSA. Libertas knowingly falsified reports indicating that various discharges from its outfalls were within applicable permit

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<sup>4</sup> *See* U.S. Attorney's Office for the Western District of Pennsylvania Press Release, <https://www.justice.gov/usao-wdpa/pr/pittsburgh-area-copper-processing-company-pleads-guilty-felony-violations-clean-water> (December 15, 2020).

limits, when in fact its own internal sampling data showed that such discharges had exceeded the relevant limits. Furthermore, Libertas also engaged in a years-long pattern of discharging oil in a quantity sufficient to generate oil sheens on the Ohio River.

In addition to Libertas, other defendants who engaged in more egregious criminal violations received more lenient sentences. For example, Action Mining, Inc. discharged untreated acid mine drainage into Coal Run, a tributary of the Casselman River for a period of two years from 1994 until 1996. *See* D.E. 1 in *United States v. Action Mining, Inc.* (3:99-CR-00007) (W.D.P.A). Acid mine drainage is harmful to fish and other aquatic wildlife and in sufficient concentrations can cause burns and illnesses to people who use surface waters for drinking and recreational purposes. Action Mining was charged by Information in the Western District of Pennsylvania with violating the CWA and was sentenced to 24 months of probation and ordered to pay a \$50,000 fine. *See* D.E. 19.

Another corporation in the Middle District of Pennsylvania received a five-year term of probation and only a \$10,000 fine for its CWA violations, as well as tampering with a government witness. *See* D.E. 1 in *United States v. David D. Klepadlo & Associates, Inc.* (3:16-CR-254) (M.D.P.A). The defendant contracted with local municipalities in northeast Pennsylvania to operate and manage their waste water treatment plants.<sup>5</sup> The defendant failed to properly operate and maintain multiple facilities, did not take daily and weekly discharge samples, and submitted false reports to local and federal environmental officials. Moreover, the owner attempted to persuade a government witness to fabricate a false explanation for the CWA violations. These violations led to unauthorized discharges into multiple creeks and rivers. *Id.*

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<sup>5</sup> *See* U.S. Attorney for the Middle District of Pennsylvania Press release, <https://www.justice.gov/usao-mdpa/pr/clark-summit-man-sentenced-violations-clean-water-act-and-tampering-government-witness>. (October 30, 2020).

Lastly, Valley Crest Foods, Inc. was cited for CWA violations in the District of Oregon for repeatedly discharging milk and other pollutants into the public water treatment facility which caused wastewater with elevated *E. Coli* bacteria to enter the Coquille River, resulting in a public health advisory.<sup>6</sup> The company was regularly discharging wastewater to the sewer system that caused disruptions to a nearby city's Publicly Owned Treatment Works ("POTW"). *Id.* These disruptions prevented the POTW from effectively processing the waste it received from the local community and resulted in elevated bacteria levels in violation of a CWA discharge permit. The District Court of Oregon ordered the company to pay a fine of \$80,000 for conduct that occurred from 2017 until 2018. *Id.*

Evidenced by the above referenced cases, other similarly situated defendants have either been sentenced to similar or more lenient terms than those the PWSA is currently facing. The Court should also give weight to the fact that the Government has approved the agreed-upon penalty. The EPA, which has been intimately involved in this case, is perhaps in the best position to know what kind of penalty is reasonable relative to other CWA cases. The fact that the Government has approved the stipulated penalty in this case should add to the Court's confidence that the penalties are appropriate and generally consistent with factually similar CWA cases.

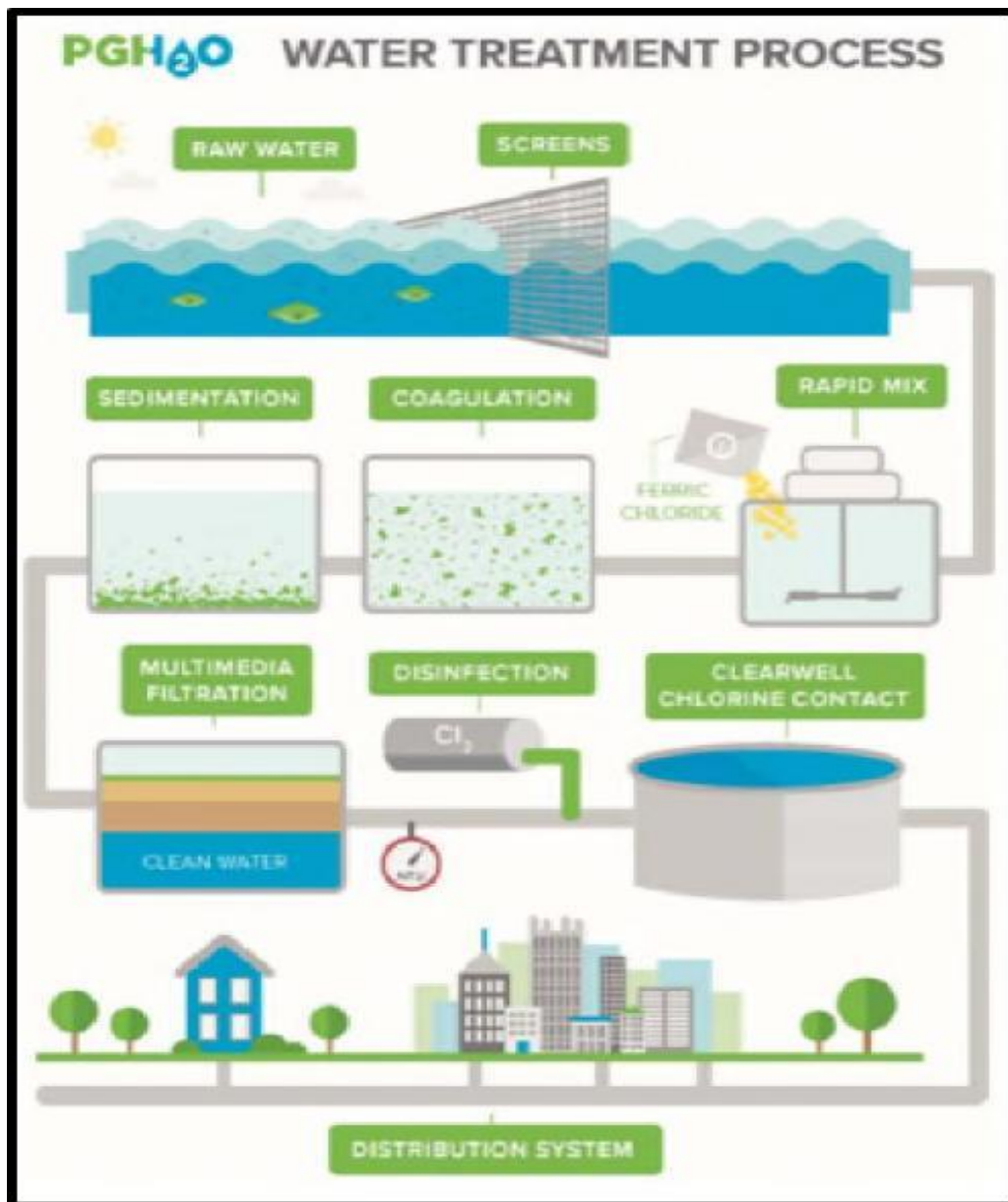
## V. CONCLUSION

The agreed-upon disposition represents substantial punishment for the type of violations at issue, particularly, where the discharge resulted in no irremediable environmental harm. The public interest would be fully vindicated if this sentence were imposed and it represents an "appropriate disposition" within the meaning of Fed. R. Crim. P. 11(c)(1)(C). The Court should accept the Plea Agreement and impose the agreed-upon sentence.

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<sup>6</sup> See U.S. Attorney for the District of Oregon Press release, <https://www.justice.gov/usao-or/pr/myrtle-point-dairy-pleads-guilty-violating-clean-water-act>. (October 8, 2020).

# EXHIBIT 1



*Water purification process*



# EXHIBIT 2



*Bolts permanently blocking discharge valve from the distribution structure through Outfall 012 to the Allegheny*

# EXHIBIT 3

## Manual Outline

The Environmental Compliance Manual is divided into individual sections as follows:

- Section 1 – Introduction: States the purpose and scope of the Manual.
- Section 2 – Program Team: Describes personnel, including the program team, water production personnel, system organization and training.
- Section 3 – Water Supply Systems: Summarizes information on the water production system and provides corresponding flow diagrams and schematics.
- Section 4 – Compliance Obligations and Methods: Provides a summary of regulations, statutes, permits, and orders related to water quality and environmental compliance and the methods that are in place to achieve compliance.
- Section 5 – Monitoring and Verification: Summarizes monitoring methods to confirm compliance methods are implemented. Lists verification and auditing activities, including reporting structure for compliance concerns. Establishes Corrective Action procedures and actions.
- Section 6 – Management Procedures: Summarizes procedures for operation under normal and abnormal conditions.
- Section 7 – Improvements Plan: Outlines projects and programs that have been identified to improve water quality and environmental compliance efforts.
- Section 8 – Supporting Programs: Summarizes supplemental programs that support achieving water quality and environmental compliance.
- Section 9 – Plan Review: Establishes initial and on-going review and update of the Environmental Compliance Manual.
- Section 10 – Documentation: Describes documentation requirements to demonstrate program is followed and to provide a record for auditing purposes.



## 1.3 Manual Outline

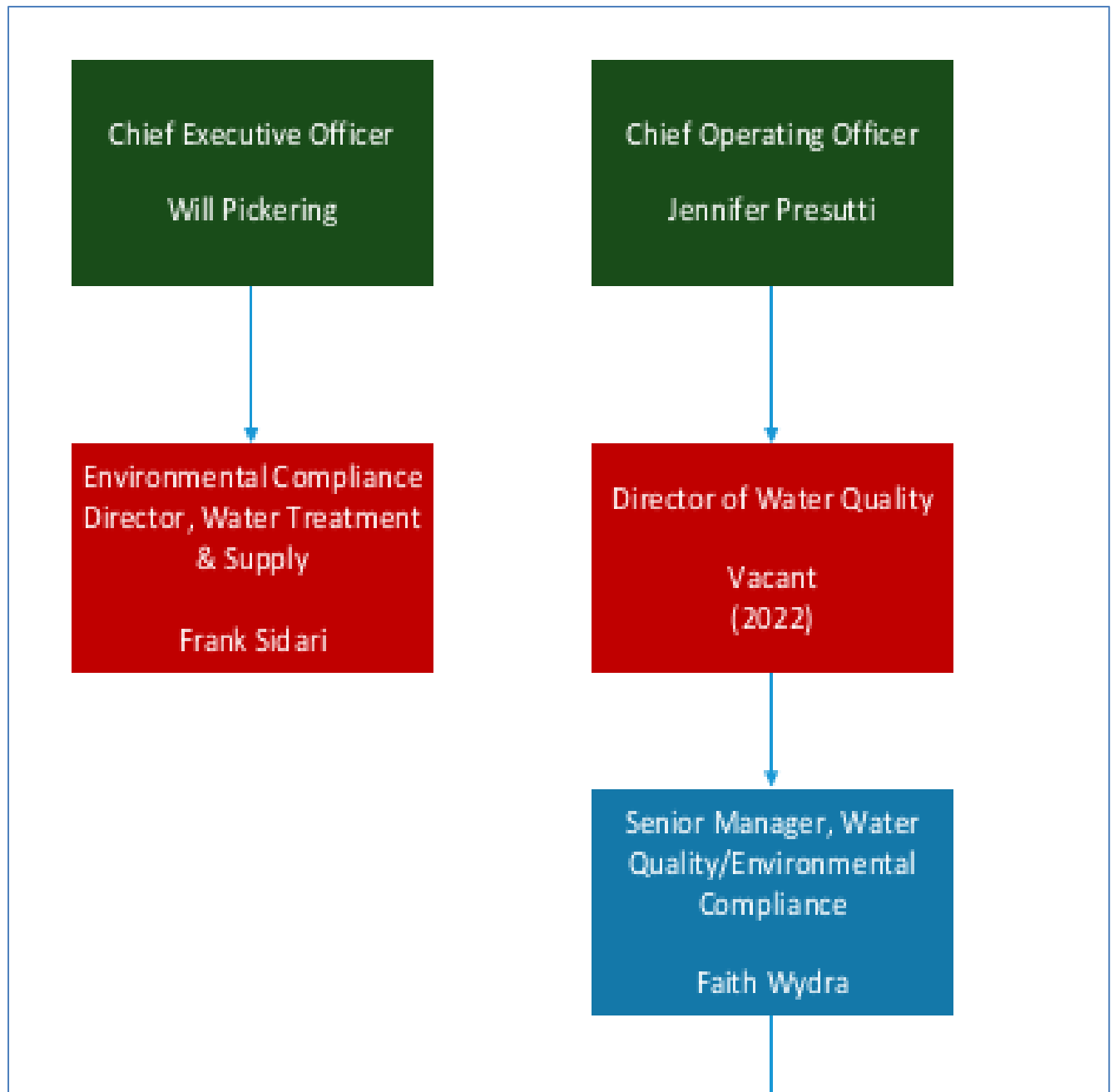
The Environmental Compliance Manual is divided into individual sections as follows:

- Section 1 – Introduction: States the purpose and scope of the manual.
- Section 2 – Program Team: Describes personnel, including the Program Team, water production personnel, system organization and training
- Section 3 – Water Supply Systems: Summarizes information on the water production system and provides corresponding flow diagrams.
- Section 4 – Compliance Obligations and Methods: Provides a summary of regulations, statutes, permits, orders, and internal requirements related to water quality and environmental compliance and the controls or processes that are in place to achieve compliance.
- Section 5 – Monitoring and Verification: Summarizes monitoring programs, corrective actions and provides verification and auditing of environmental compliance.
- Section 6 – Management Procedures: Summary of procedures for operation under normal and abnormal conditions, including reporting structure for acts of non-compliance.
- Section 7 – Improvement Plan: References programs to improve water quality and environmental compliance.
- Section 8 – Supporting Programs: Summary of supplemental programs that support achieving water quality and environmental compliance.
- Section 9 – Plan Review: Process for scheduled and emergency review and update of the Environmental Compliance Manual
- Section 10 – Documentation: Documentation requirements to demonstrate program is being followed and provide a record for auditing purposes.

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*Environmental Compliance Manual Outline*

# EXHIBIT 4



*Organizational Chart*

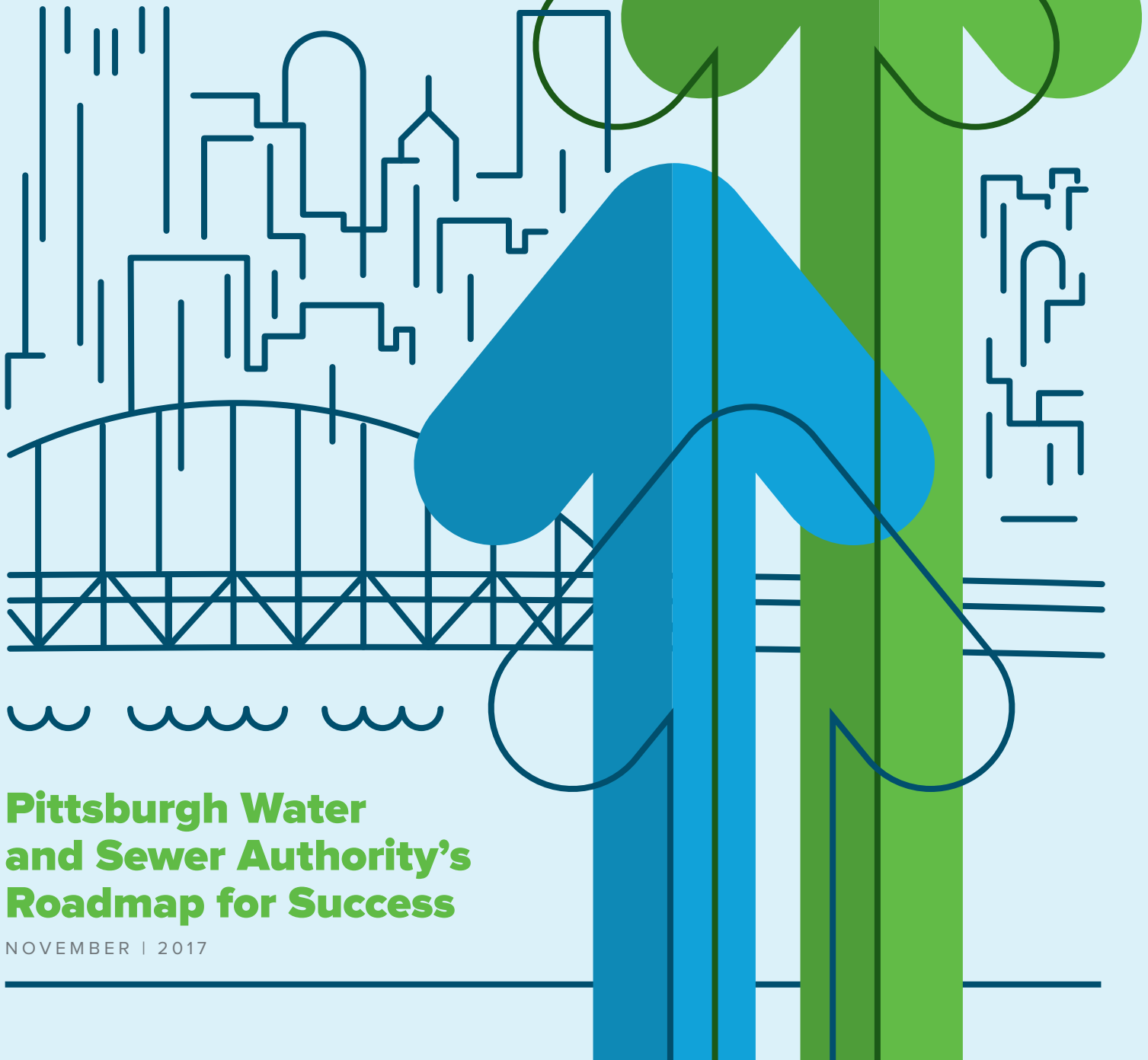
# EXHIBIT 5



FOCUSING ON THE

# FUTURE

PGH<sub>2</sub>O



**Pittsburgh Water  
and Sewer Authority's  
Roadmap for Success**

NOVEMBER | 2017

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- 17 Communications
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### Message from the Executive Director:

The people of Pittsburgh have enjoyed access to public water service for more than 200 years. Today, that service is provided by the Pittsburgh Water and Sewer Authority (PWSA), which exists to support the community's vitality by protecting public health and the environment through safe, reliable, and cost-effective delivery of water, wastewater conveyance, and stormwater services.

PWSA's challenges are well defined; but they are neither unique, nor insurmountable. Extended periods of underinvestment and organizational instability have led to infrastructure failures, regulatory lapses, and organizational turnover. These are common challenges that most urban water systems in the northeast face. Through a combination of new and existing initiatives, talented leadership, and a supportive Board of Directors, PWSA is committed to improving its operations and addressing these challenges.

PWSA has a solid foundation to build upon – an ample water supply from the Allegheny River, adequate delivery capacity throughout its distribution system, and a stable customer base. This Organizational and Compliance Plan builds on the utility's strength. It articulates PWSA's goals, the concrete actions that will be taken to achieve those goals, and the measures by which PWSA staff, outside stakeholders, and customers can measure its ultimate success.

**With this plan – and hard work – we will be successful. We will continue working, every day, to deliver safe, reliable, and cost-effective drinking water, wastewater conveyance, and stormwater services. We will continue working, every day, to protect public health and the environment. And we will continue working, every day, to be a highly responsive and trusted public utility, recognized for excellence and valued by our community.**

**Pittsburgh deserves no less.**

**Robert Weimar, P.E.**  
Interim Executive Director  
Pittsburgh Water and Sewer Authority

## WHAT IS OUR FUTURE?

*PWSA is a highly responsive and trusted public utility, recognized for excellence and valued by our community.*

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## WHAT DO WE DO?

*PWSA supports community vitality by protecting public health and the environment through safe, reliable and cost-effective delivery of drinking water, wastewater and stormwater services.*

# OUR GOALS



### Protect Public Health and the Environment

*To protect and support the long-term health of our community and environment*



### Ensure Customer and Stakeholder Satisfaction

*To enhance customer and stakeholder confidence by communicating effectively and engaging our community*



### Improve Infrastructure Reliability

*To ensure service reliability through responsible infrastructure investment and proactive maintenance*



### Maintain a High-Performing Workforce

*To recruit, develop, and retain a motivated and well-qualified team*



### Be an Efficient and Effective Organization

*To optimize the use of our resources through innovative technology, effective processes, and continuous improvement*



There are several trends that water-sector utilities must contend with and respond to, including **increased utility financial constraints, regulations, workforce issues, and customer expectations.** PWSA faces each of these, and each trend challenges PWSA's ability to maintain the traditional utility approach: out of sight, out of mind.

# TREN

## ***This Organizational and Compliance Plan addresses these trends.***

### **TREND 1:**

#### **CUSTOMER EXPECTATIONS**

Changing requirements for service delivery are being driven by a new generation of customers who expect more rapid, and easy access to information. The customers of the future are driving the investments of today.

PWSA must respond by providing updated customer billing and information management systems that meet the expectations of a changing customer base.

### **TREND 2:**

#### **FINANCIAL CONSTRAINTS**

With capital and operating budgets rising, and stakeholder groups who are increasingly resistant to rate increases, utilities struggle to make necessary investments.

PWSA carries a significant debt load of more than \$840 million, and additional capital investment is needed. Rates are expected to rise over the next several years as we replace in our aging infrastructure and strengthen our delivery of services.

### **TREND 3:**

#### **REGULATIONS**

Across the board, regulations are becoming more stringent, which requires greater investment of an organization's scarce resources. Compliance with environmental regulations tends to be especially challenging (and costly).

In 2008, the Pittsburgh region entered a Consent Decree with the US Environmental Protection Agency to reduce and eliminate sewage contamination in local streams and rivers. The Consent Decree requires all 83 communities within the regional service area to repair broken sewer

er lines, reduce storm water entering the system, reduce the frequency and amount of combined sewer overflows, and eliminate sanitary sewer overflows.

### **TREND 4:**

#### **WORKFORCE ISSUES**

Water-sector utilities struggle to recruit and retain staff with the necessary skills and competencies to manage utility operations. Typically, utilities have aging workforces, which make knowledge retention and succession planning significant challenges.

PWSA has experienced frequent leadership turnover in the last several years, and operates in a union environment, which can limit workforce flexibility. Compensation is limited, and often not competitive as compared to the private sector. Additionally, the utility's financial constraints have curtailed some employee development and training opportunities.

# IDS



# GOAL 1

## PROTECT PUBLIC HEALTH AND THE ENVIRONMENT

*To protect and support the long-term health of our community and environment*

The primary mission of any water and wastewater utility is to protect public health and the environment. Drinking water must meet all regulatory water quality requirements when it leaves PWSA treatment facilities and when it is used at a customer's tap. PWSA must ensure that wastewater is collected from customers without backups or spills, and conveyed through the wastewater collection system to the regional ALCOSAN treatment facility. The conveyance process must be secure, and occur without sanitary sewer overflows (SSOs) that could damage the environment. Treatment then renders the wastewater safe, before it is discharged back to the environment.

### FOCUS AREA 1:

## DELIVER HIGH QUALITY DRINKING WATER

Our goal is to continuously meet or exceed customer and regulatory standards for the water that we provide. To do that, PWSA will pursue the following strategies:

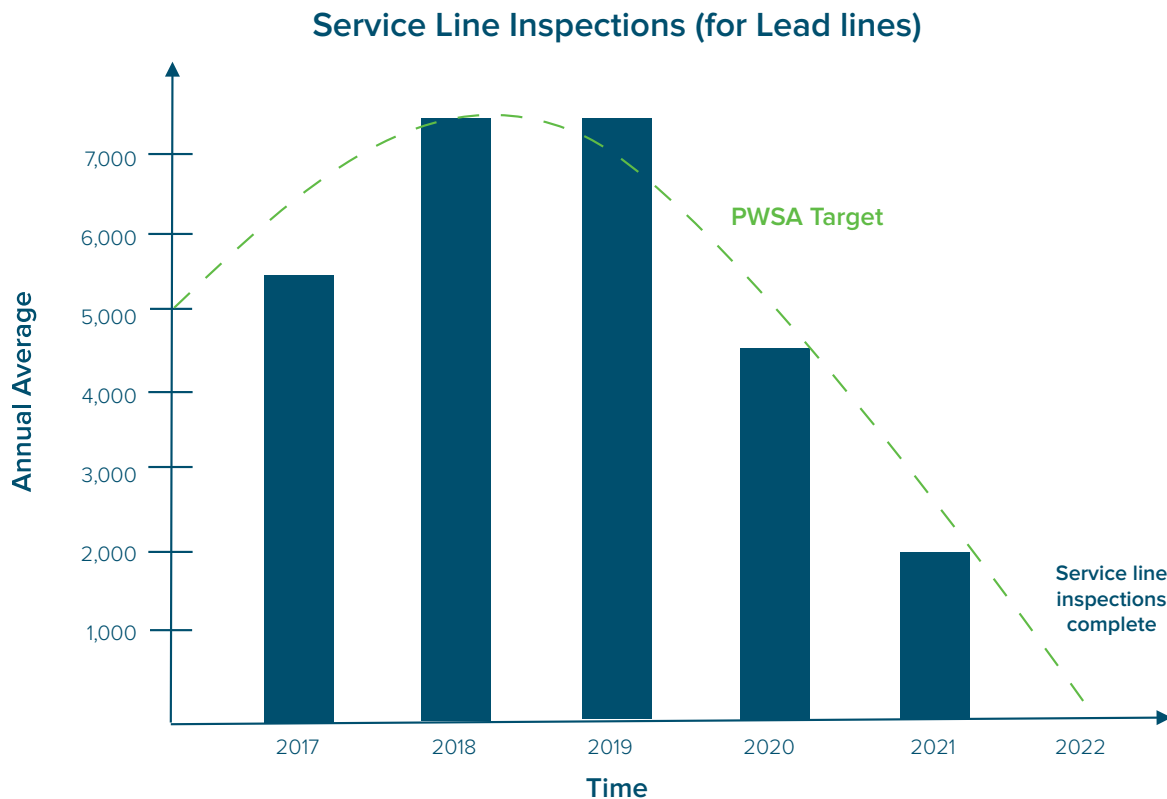
- Perform regular tests at certified laboratories to ensure high water quality and service levels
- Report water quality results to customers in an annual Consumer Confidence Report
- Continue to actively manage and replace lead service lines

Ensuring success in this area will require PWSA to effectively manage its distribution system, including increasing the number of water quality monitoring points; regularly flushing the system; incorporating best-in-class technology and enhanced modeling capabilities; and improving its cross-connection control program to meet industry best practices.

### MEASURE OF SUCCESS

### TARGET PERFORMANCE

Compliance with regulatory water quality standards	→	365 days of full water quality compliance
Implement cross-connection control	→	<ul style="list-style-type: none"> <li>• 100% of service connections rated for potential threat level and catalogued</li> <li>• All backflow devices tested at regular intervals</li> </ul>
Compliance with lead standards	→	Lead levels; in compliance with EPA standards
Achieve water pressure standards	→	Meet target maximum and minimum pressure in water mains; minimum fire flow at hydrants



## FOCUS AREA 2:

### **SAFELY AND EFFECTIVELY CONVEY WASTEWATER AND STORMWATER**

Our goal is to continuously meet or exceed customer and regulatory standards as we convey wastewater and stormwater to the ALCOSAN treatment facility. PWSA is committed to:

- Maintaining wastewater system cleaning, root removal, and maintenance activity to prevent back-ups
- Routinely inspecting manholes
- Monitoring and reporting on all combined and sanitary sewer overflows
- Regularly performing condition assessments on all gravity pipe segments

PWSA's continued success in this area will also require implementing a risk-based wastewater system renewal program; incorporating similar best-in-class technology and modeling capability to what is required for the water system; and adopting a lateral inspection and renewal program.

#### **MEASURE OF SUCCESS**

Compliance with regulatory wastewater and stormwater quality standards



#### **TARGET PERFORMANCE**

365 days of full compliance

Eliminate sanitary sewer overflows (SSOs)



Zero SSOs per year

Compliance with combined sewer overflow (CSO) requirements



Reduced number and volume of CSOs

Minimize back-ups and failures



Fewer than one unplanned failure per 5,000 accounts (AWWA benchmark)

Clean and inspect wastewater mains and manholes



10% of system annually





# GOAL 2

## MAINTAIN A HIGH-PERFORMING WORKFORCE

*To recruit, develop, and retain a motivated and well-qualified team*

Attracting, training, and developing the next generation of utility staff is quickly becoming a significant focus area for every major water utility. A high-performing organization needs to address capturing and transferring institutional knowledge, succession planning, career development and personal growth opportunities for its workforce. Training and incentives that enhance and recognize employee efforts provide the means to establish higher standards to meet the needs of modern utility operations. PWSA's shift to a learning-based culture will help attract and support a high-performing workforce.

### FOCUS AREA 1:

## INCREASE HIRING EFFECTIVENESS

Developing a strong workforce relies on identifying and hiring qualified applicants. To that end, PWSA is committed to:

- Implementing a new Human Resources Information System (HRIS)
- Reviewing and improving job postings and position descriptions
- Optimizing and streamlining the hiring process and timeline
- Reviewing employee total compensation packages

Additionally, PWSA will look to extend outreach to industry publications, community partnerships, and other venues to reach prospective talent; as well as evaluating the possibility of eliminating the City's domicile employment requirements that hinder finding and retaining good people.

### MEASURE OF SUCCESS

Hiring Response Time



### TARGET PERFORMANCE

Average time to fill existing positions is less than three months from the date of the vacancy

Position Vacancy Rate



Average vacancy rate is less than 3%





## FOCUS AREA 2:

### ENHANCE WORKFORCE ENGAGEMENT AND PERFORMANCE

Increasing the efficiency and effectiveness of our organization requires engaged, developed, and high-performing PWSA employees. Creating this workforce will require PWSA to:

- Work cooperatively with unions to find and act on opportunities to increase workforce performance and effectiveness
- Complete a training program roadmap and inventory of the training requirements for all positions at PWSA
- Dedicate additional resources to training and development; as well as health, safety, and risk management
- Establish and track productivity goals for work groups, where applicable

Additionally, PWSA will develop a program to recognize high-performing employees and will support employee involvement in industry groups and events.

#### MEASURE OF SUCCESS

#### TARGET PERFORMANCE

Training hours per year	→	Twenty hours per employee per year
Safety Compliance	→	Maintain a workers' compensation experience modification rate of less than 1.0
OSHA Compliance	→	Meet OSHA requirements
Conduct a staff engagement survey every three years	→	Increased engagement levels



# GOAL 3

## ENSURE CUSTOMER AND STAKEHOLDER SATISFACTION

*To enhance customer and stakeholder confidence by communicating effectively and engaging our community*

PWSA is committed to maintaining an elevated level of quality, performance, and value. While the utility has recently experienced infrastructure failures, billing issues, and negative media reports, PWSA is actively working to regain community confidence. Recognizing that the utility must earn customer's support and trust, PWSA has already begun to engage the community and communicate many of the positive changes that are being made to enhance service.

### FOCUS AREA 1:

## RESPOND TO CUSTOMERS AND STAKEHOLDERS IN A TIMELY MANNER

Being responsive to customers is paramount to earning their trust and recognition of PWSA as a valuable community resource. To do that, PWSA will:

- Develop Standard Operating Procedures (SOPs) and standard scripts for effectively managing common types of customer contacts
- Provide customer service staff with additional training and call monitoring
- Increase call center resources to meet call volumes and achieve target performance goals

### MEASURE OF SUCCESS

### TARGET PERFORMANCE

Less than 5% of calls abandoned



Average answer speed of less than three minutes

Reduce call abandonment



Less than 3% of calls abandoned

Minimize customer complaints



Less than 5.9 complaints per 1,000 accounts annually

## FOCUS AREA 2:

**REGULARLY PROVIDE CLEAR AND EFFECTIVE INFORMATION**

Customer and stakeholder support and trust begin with understanding, and that begins with the information that PWSA shares. PWSA is committed to:

- Developing a communications plan, to include social media and web-based strategies
- Increasing transparency and developing educational materials
- Providing regular progress reports to key PWSA stakeholders

**MEASURE OF SUCCESS****TARGET PERFORMANCE**

Conduct an annual customer and stakeholder satisfaction survey → Increased satisfaction rates

Increase social media interaction → Increased platforms, followers, and engagement

## FOCUS AREA 3:

**UTILIZE ADVANCED METER INFRASTRUCTURE (AMI) TO GENERATE ACCURATE CUSTOMER BILLS**

Ensuring customer satisfaction, as well as utility revenue sufficiency, relies on PWSA's ability to accurately read meters and generate the corresponding bills. This requires PWSA to:

- Meter all users, including public and commercial users
- Verify AMI and CIS communications to ensure accurate data transfers
- Adopt industry best practices for billing quality control and assurance
- Adopt AWWA Water Loss Management Practices

Additionally, PWSA will maintain a robust meter monitoring, testing, and replacement program; ensure all meters are connected to the AMI system; conduct leak detection analysis; and alter the printed bill layout to ensure that it is easily understandable.

**MEASURE OF SUCCESS****TARGET PERFORMANCE**

Percent of accounts metered within 18 months → 100% of active, permanent accounts metered

Equip all meters with AMI technology → 98% of active, permanent meters have AMI technology

Ensure accurate meters → 95% of residential and 98% of commercial meters meet minimum acceptable accuracy levels (any over-billed accounts are adjusted promptly)

Provide timely and accurate bills to customers → 99.9% of bills are sent on time with no errors in charges/fees

Minimize non-revenue water → Reduce non-revenue water to less than 20% of treated volume



# GOAL 4

## IMPROVE INFRASTRUCTURE RELIABILITY

*To ensure service reliability through responsible infrastructure investment and proactive maintenance*

PWSA operates and maintains over 2,000 miles of water and sewer pipe, two water treatment plants, and numerous water storage reservoirs, pumps stations, manholes, and fire hydrants. Unfortunately, most assets are underground and hidden from view, so problems with these important networks often goes unnoticed until failures occur. This has led to decades of underinvestment. PWSA is dedicated to investing the necessary resources to elevate the condition of its infrastructure and minimize system failures.

### FOCUS AREA 1:

## IMPLEMENT ENHANCED MAINTENANCE PRACTICES

Enhanced maintenance practices allow PWSA to extend the useful life of its assets and reduce costs over time. Doing so requires PWSA to:

- Inspect and rate the condition of gravity pipe segments on a regular schedule
- Add additional crews to implement and maintain a 2-year cycle of valve and hydrant exercising
- Increase field crew productivity

PWSA will need to focus on increasing the ratio of proactive to reactive maintenance; shift to replacing infrastructure based on risk and performance, rather than years in service; and fully integrate capital project and maintenance management technology systems.

### MEASURE OF SUCCESS

### TARGET PERFORMANCE

Increase the number of proactive work orders



80% of work orders are proactive

Perform manhole inspections



20% of manholes are inspected annually

Conduct condition assessment of wastewater mains using CCTV



15% of the wastewater collection system to be assessed annually





## FOCUS AREA 2:

### RENEW AGING/FAILING INFRASTRUCTURE

PWSA's success in achieving its mission and accomplishing its goals relies heavily on the condition and sufficiency of its infrastructure. Continuing to focus on developing and maintaining that infrastructure to meet customer needs now and into the future will occur by:

- Implementing and staffing the internal Project Management capability necessary to oversee and manage capital projects
- Ensuring sufficient resources to align capital renewal with the desired service levels

Renewing aging/failing infrastructure will require development of installation and repair SOPs; implementing a risk-based renewal system; adopting a lateral inspection and renewal plan; and initiating the water loss programs discussed in the previous section.

#### MEASURE OF SUCCESS

Replace/rehabilitate buried assets at an accelerated rate

Reduce water main breaks

Ensure the financial resources are available to implement the capital plan

#### TARGET PERFORMANCE



Renew at least 2% of buried assets per year



Achieve a failure rate of less than 50 breaks per 100 miles of water main annually



Acceptance and approval of user charges to fully fund CIP

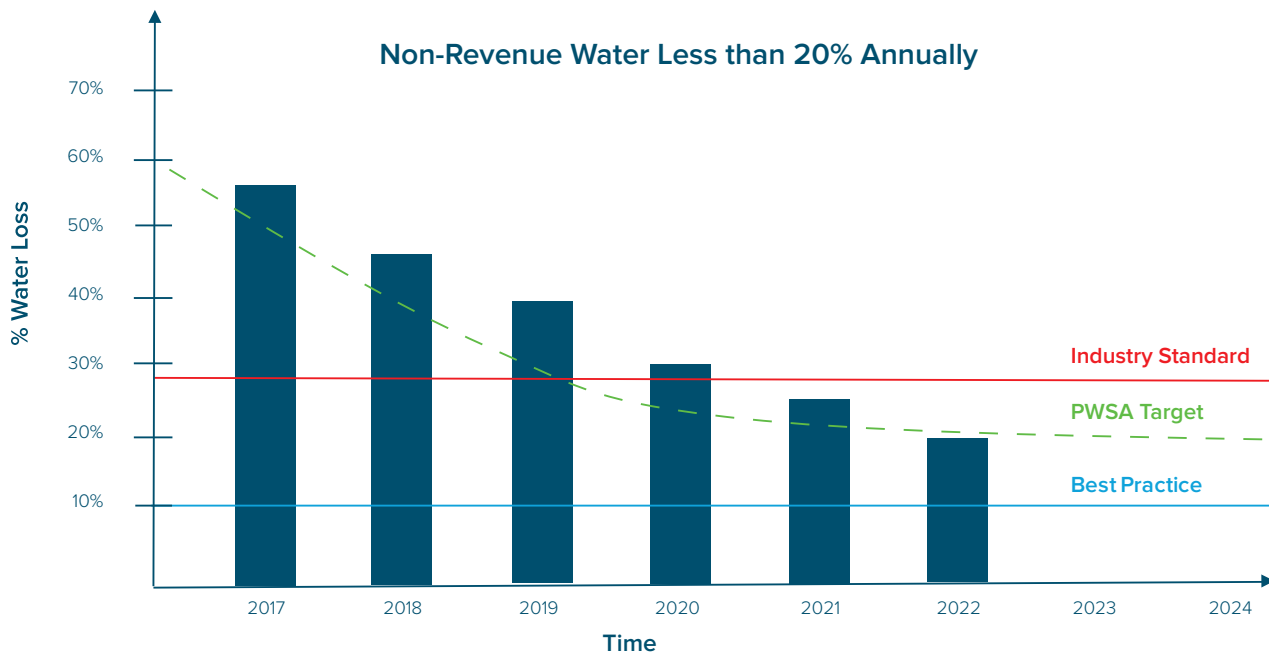


# GOAL 5

## BE AN EFFICIENT AND EFFECTIVE ORGANIZATION

*To optimize the use of our resources through innovative technology, effective processes, and continuous improvement*

The people of Pittsburgh expect PWSA to provide excellent value, spending the public's money and using its resources as efficiently and effectively as possible to ensure the delivery of high quality services. To meet these expectations, PWSA will increase its productivity and streamline its systems and processes. Ultimately, PWSA is focused on instituting better practices, implementing modern technologies, and using data to drive improvements to organizational performance. These changes will allow us to continue to provide the high-quality and timely services our customers deserve.







## FOCUS AREA 1:

### IMPLEMENT ENHANCED WORK PRACTICES AND STANDARDS

Increasing the efficiency and effectiveness of our organization starts with instilling a culture of continuous improvement in PWSA employees. This will allow us to look critically at our existing operations, use data to identify key areas for improvement, implement change, and measure success. Specifically, PWSA will:

- Establish a Performance Improvement group to help instill and grow a culture of continuous improvement
- Adopt technologies and reporting processes to seamlessly communicate progress in key performance areas
- Use a combination of internal and external resources to address critical staffing needs

Particular areas of opportunity include centralizing the field work yards and the warehouse; optimizing the use of fleet and vehicle assets; and implementing an operations technical support function to focus on treatment optimization and process control.

#### MEASURE OF SUCCESS

Consistent measurement and reporting of Key Performance Indicators (KPIs)

Efficient staffing levels

Field Crew Work Activity Tracking

Service disruptions are addressed quickly, minimizing time without service

#### TARGET PERFORMANCE



Continuously monitor operations and processes against KPIs, and report results



Maintain staffing numbers and cost per account ratios in line with industry standards



Time spent on task is greater than 75% of available time



Average service disruption time is less than 12 hours

## FOCUS AREA 2:

**INVEST IN INFORMATION TECHNOLOGY SYSTEMS AND RESOURCES**

Our goal is to enhance our organization's performance through the implementation of modern technology, which will support the work practices and standards described in Focus Area 1. To achieve this goal, PWSA will:

- Implement robust IT systems that allow for increased levels of service and the elimination of paper-based recordkeeping. These systems include a computerized maintenance management system (CMMS), a Human Resources Information System (HRIS), and an updated Customer Information System (CIS).
- Increase IT resources to support security, programming, database administration, and desk-top support

Additionally, PWSA is focused on increasing its use of business analytics, GIS integration, and use of an electronic document management system.

**MEASURE OF SUCCESS****TARGET PERFORMANCE**

Procure and begin CMMS Implementation	→	6 months to procure and 1 year to fully implement
Procure and begin CIS Implementation	→	8 months to procure and 2 years to fully implement
Procure and begin HRIS Implementation	→	8 months to procure and 1 year to fully implement

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## FOCUS AREA 3:

**MAINTAIN FINANCIAL INTEGRITY**

Our goal is to consistently meet or exceed targeted financial metrics while delivering clean, safe, and reliable service to customers at rates they can afford. To do that, PWSA will:

- Establish and maintain revenue sufficiency to meet increasing levels of operating and capital costs
- Implement cost-justified rates that are consistent with industry best practices
- Report the results of operations annually in a Comprehensive Annual Financial Report
- Implement an affordability program to provide customer assistance

Ensuring success in the financial focus area will require PWSA to establish financial metrics that can be continuously monitored; implement proactive and cost-justified rate increases; enhance the billing process to reduce billing errors; develop an affordability program; and assess the program's impact on system revenues.

**MEASURE OF SUCCESS****TARGET PERFORMANCE**

Fully fund operating and capital costs	→	Set water and sewer rates at a level that allows for full funding of utility operating and capital costs
Improve PWSA's bond rating	→	Increase debt service coverage above the covenant-required 1.25% and increase liquidity through annual reserve contributions
Maintain equitable and cost-justified rates	→	Implement equitable and defensible water and sewer rates
Maintain a clean or unmodified opinion annually from PWSA external auditors	→	Adhere to GASB and Pennsylvania PUC-endorsed accounting practices





# COMMUNICATIONS

Through this Organizational and Compliance Plan, PWSA has committed to improving internal and external communications. Effective communication is critical not only for the successful implementation of the plan, but also for the overall success of PWSA. The issue of communication cuts across the various goals and initiatives discussed herein.

While most specifically called out in the Ensure Customer and Stakeholder Satisfaction goal area, PWSA has committed to significantly increasing communications in many areas, through:

- Reporting water quality information to regulatory agencies and the public
- Communication of progress against metrics in key performance areas, both internally and externally
- Production of a Comprehensive Annual Financial Report
- Increased social media and web-based customer and stakeholder interaction
- Creation of community outreach and education materials
- Conducting an annual customer satisfaction survey
- Communication of OSHA and other safety compliance information
- Conducting an employee satisfaction survey every three years

Overall, enhanced communications will be a major initiative at all levels of PWSA to assure employee commitment and to facilitate various teams and individuals working toward the same vision and mission, regardless of which goals or initiatives are their primary focus.



# MOVING TO THE FUTURE

PWSA recognizes that the status quo cannot continue, and that the organization's challenges must be addressed with a sense of urgency. While this Organizational and Compliance Plan has only recently been formalized, many of the initiatives and actions contained within are already underway. A plan alone, however, is not sufficient to address the magnitude of the work that must be completed.

Key hires have already been made, and rates will increase by approximately 28% in FY 2018, which will allow for essential investment in PWSA's critical infrastructure and funding for many of the initiatives included in this plan.

PWSA is also realigning its organizational structure to ensure that sustained progress continues, with the creation of a Strategy and Performance Office. This office will provide needed support in the areas of business process optimization, strategic planning and implementation, and overall performance management. Ultimately, the office will have responsibility for ensuring that PWSA adopts processes and methods to continuously evaluate and improve the organization's operations. Central to this responsibility is the requirement that proven approaches such as LEAN and Six Sigma process improvement analysis methods be deployed as necessary to assist with the organization's overall optimization objectives.

*Making progress on the initiatives contained within this plan, continuing to staff key positions with qualified employees, moving toward revenue sufficiency, and reorganizing to support continuous improvement will allow PWSA to achieve its ultimate goal of:*

**Supporting  
community vitality  
by protecting  
public health and  
the environment  
through safe,  
reliable and cost-  
effective delivery  
of drinking water,  
wastewater, and  
stormwater services.**

